

Claims

- [c1] 1. A device for the ventilation of a transmission case intended to hold liquid lubricant for transmission components, said device comprising:
a passage connected between a residual volume of air inside the transmission case and atmospheric pressure outside the transmission case;
the passage comprising a first section with a certain flow area and a second section with, by comparison, an at least approximately 50% larger flow area, the first section being situated between the atmosphere and the second section;
and
a compressed air source connected to the passage between the inside of the transmission case and the first section.
- [c2] 2. The device as recited in claim 1, wherein passage further comprises a third section that extends between the inside of the transmission case and the second section.
- [c3] 3. The device as recited in claim 2, wherein the third passage section comprises a connection leading to the compressed air source.
- [c4] 4. The device as recited in claim 3, wherein the connection opens into the second passage section and is directed towards the first passage section.
- [c5] 5. The device as recited in claim 1, wherein the second section of the passage is designed as a cylindrical chamber with a largely vertical longitudinal axis.
- [c6] 6. The device as recited in claim 1, wherein the compressed air source consists of a ventilation port from an air cylinder.
- [c7] 7. The device as recited in claim 6, wherein the air cylinder is adapted to be used for the operation of transmission components in the transmission case.
- [c8] 8. The device as recited in claim 2, wherein the third passage section is designed so that it presents a greater flow resistance than the first passage section.
- [c9] 9. A device for ventilating a transmission case adapted to hold liquid lubricant

for transmission components, said device comprising:
a passage connectable between a residual volume of air inside a transmission case and the atmosphere outside the transmission case, the passage comprising an expansion portion that tapers to a neck opening leading to atmospheric air that is to be drawn into the device;
the expansion portion being positioned downstream to the neck opening and having a sufficiently large area to cause suspended particles swept through the neck opening to fall out of suspension and be trapped therein; and
a compressed air source connected to the device and configured to backwash trapped particles from within the expansion portion.

[c10] 10. The device as recited in claim 9, wherein a flow area of the neck opening is approximately 50% less than a flow area of the expansion portion.

[c11] 11. The device as recited in claim 9, further comprising:
a conduit extending from the expansion portion and connectable to a residual volume of air inside a transmission case; and
an annulus formed at least partially about the conduit, the annulus establishing a flow path for compressed air utilized to backwash trapped particles from within the expansion portion.